REPORT ON POUCHED AND CANNED SALMON

Prepared for Submission to Congress

by the

U.S. Department of Agriculture
Agricultural Marketing Service

May 2003

Report on Pouched and Canned Salmon

PREFACE

This report was prepared in fulfillment of the requirements of Section 10902 of the Farm Security and Rural Investment Act of 2002 (the 2002 Farm Bill):

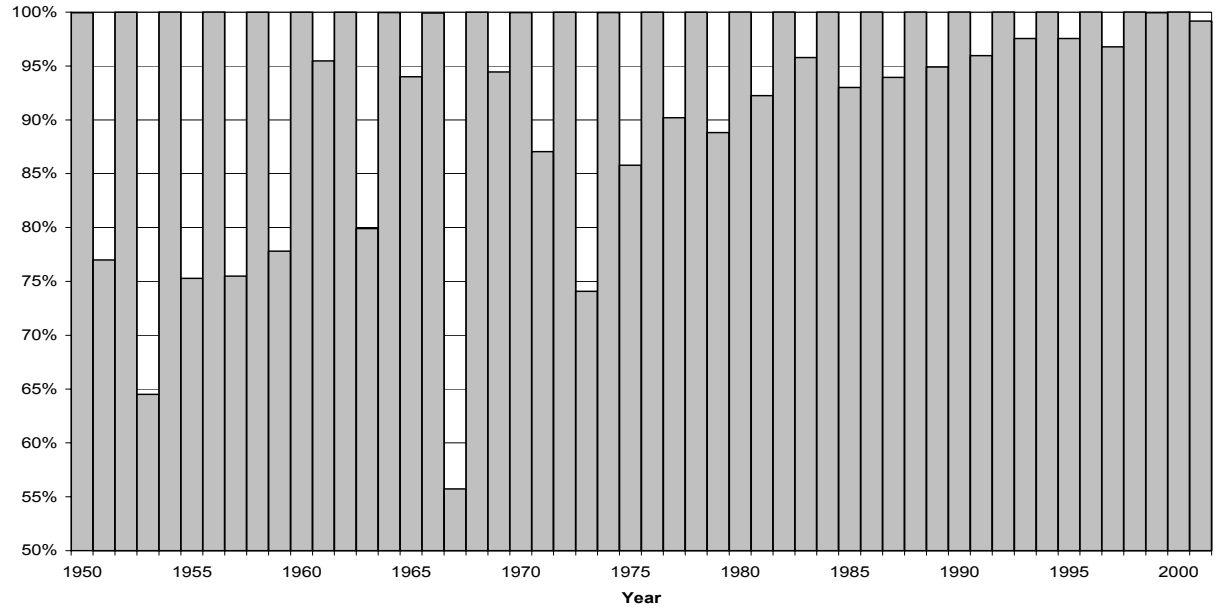
> SEC. 10902. REPORT ON POUCHED AND CANNED SALMON.
>
> (a) IN GENERAL.—Not later than 180 days after the date of enactment of this Act, the Secretary of Agriculture shall submit to Congress a report on efforts to expand the promotion, marketing, and purchasing of pouched and canned salmon harvested and processed in the United States under food and nutrition programs administered by the Secretary.
>
> (b) COMPONENTS.—The report under subsection (a) shall include—
>
> (1) an analysis of pouched and canned salmon inventories in the United States that, as of the date on which the report is submitted, are available for purchase;
>
> (2) an analysis of the demand for pouched and canned salmon and value-added products (such as salmon ‘‘nuggets’’) by—
>
> (A) partners of the Department of Agriculture (including other appropriate Federal agencies); and
>
> (B) consumers; and
>
> (3) an analysis of impediments to additional purchases of pouched and canned salmon, including—
>
> (A) any marketing issues; and
>
> (B) recommendations for methods to resolve those impediments.

INTRODUCTION

As directed by the Farm Security and Rural Investment Act of 2002, this report focuses on the pouched and canned salmon industry. For several reasons, this report specifically concentrates on the Alaskan wild pink salmon industry. First, the pouched and canned salmon industry is principally an Alaskan industry. In addition, all of the pouched and canned salmon purchased by the Department of Agricultural (USDA) for distribution to school lunch and Federal feeding programs originate from Alaskan harvesters and processors. There are five main species of commercial salmon harvested and processed in Alaska – king (Chinook), sockeye (silver), coho, pink, and chum. Pink salmon accounts for the majority of canned salmon production by volume, and all USDA purchases of pouched and canned salmon are produced from pink salmon caught in the wild. In the past two decades, Alaska accounted for no less than 93 percent of U.S. landings of pink salmon by weight, with Alaska's share nearing 100 percent in each of the past 10 years (Figure 1). Therefore, this report focuses on the pink salmon industry in Alaska.

Canned sockeye (red) salmon is second only to canned pink salmon in terms of volume, and is a higher valued product that is characterized as the "premier" canned salmon by the Alaska Seafood Marketing Institute (ASMI). The annual volume of canned sockeye salmon production averages about one-third of the volume of canned pink salmon production. Wholesale prices for canned sockeye salmon in recent years have averaged more than double the prices for canned pink salmon. Because of a more favorable balance between supply and demand, canned sockeye salmon has not faced the same difficulties confronting the pink salmon industry in terms of low prices and increasing carryover inventories. For these reasons, the canned sockeye salmon industry is not addressed in this report.

Figure 1. Alaska Share of U.S. Domestic Commercial Pink Salmon Landings, 1950-2001.



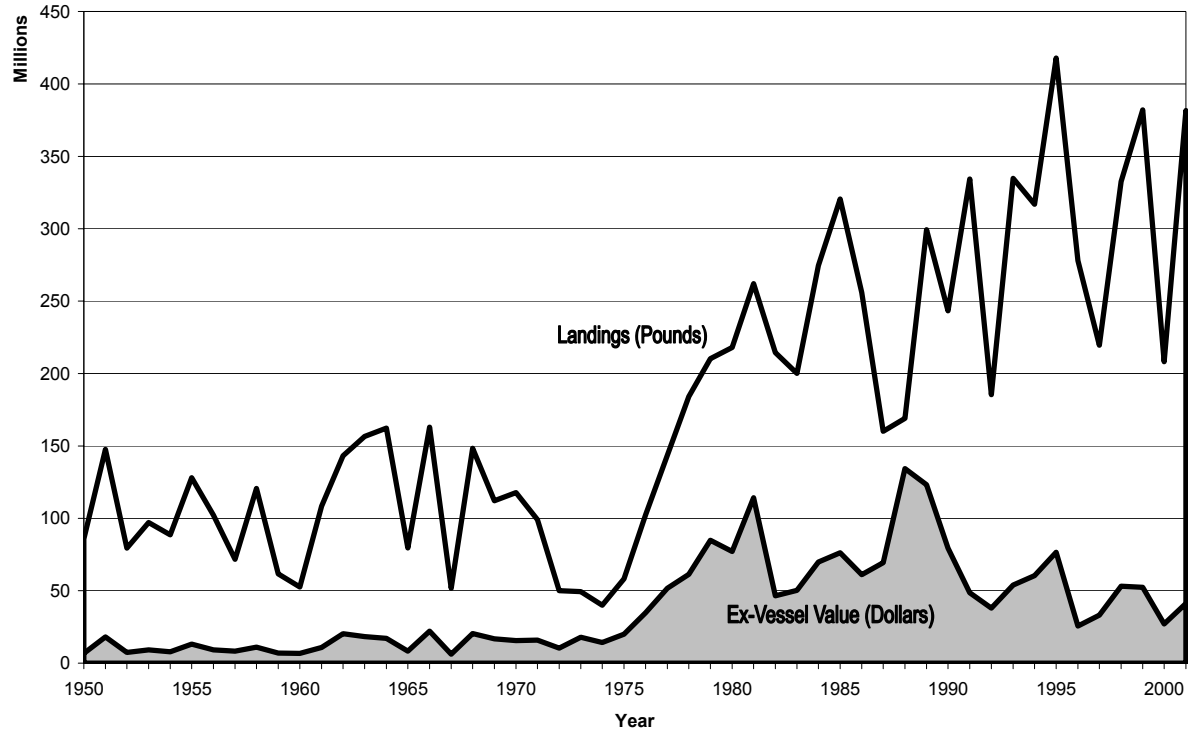
Source: National Marine Fisheries Service, U.S. Department of Commerce.

PRODUCTION AND MARKETING

Production

In the 1950s and 1960s, pink salmon landings in the United States hovered between 50 million and 163 million pounds (Figure 2). In 1974, pink salmon landings dropped to a low of 40 million pounds, but steadily and rapidly climbed to 262 million pounds in 1981, a whopping 655 percent increase in just 7 years. Harvests then continued a highly erratic upward march to a 50-year peak of nearly 418 million pounds in 1995. Annual landings have been extremely variable since 1980, with 1 or 2 years of sharp increases followed by 1 of 2 years of equally sharp declines. These types of fluctuations make long-range decisionmaking and investment planning very difficult.

Figure 2. U.S. Domestic Commercial Landings of Pink Salmon, 1950-2001.

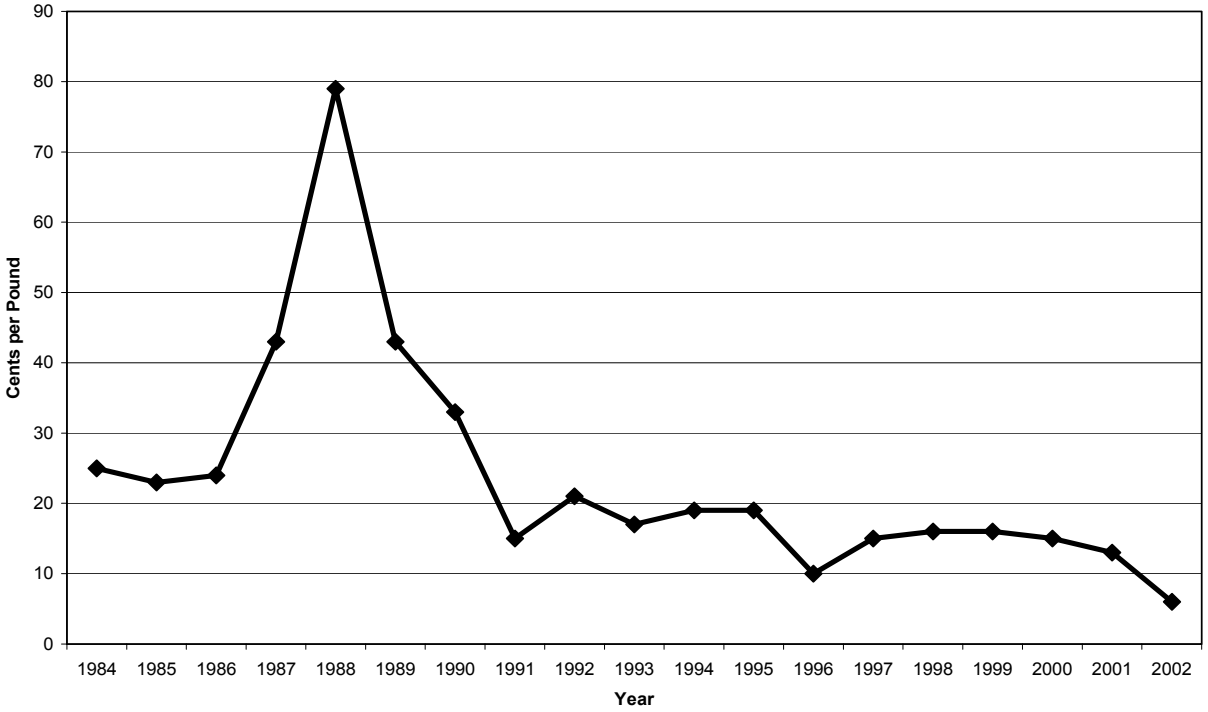


Source: National Marine Fisheries Service, U.S. Department of Commerce.

In the 1970s, total ex-vessel value (payment to harvesters) for pink salmon climbed along with the increasing size of the annual catch. The value of the pink salmon harvest hit a 31-year high of $114 million in 1981. The value of the harvest then dropped along with reduced harvests, but then climbed to a historic peak of $134 million in 1988. The value of the harvest then dropped precipitously to a 20-year low of $26 million in 1996. Since then, the industry has struggled to reach over $50 million in total annual value of the pink salmon harvest.

The decline in the value of the annual catch of pink salmon since the late 1980s is a direct result of a decline in ex-vessel (at the dock) prices paid to salmon harvesters. Following a rapid jump in prices to a peak of 79 cents per pound in 1988, pink salmon prices dropped dramatically to just 15 cents per pound in 1991 (Figure 3). Prices recovered slightly to 21 cents per pound in 1993, but have remained below 20 cents per pound for the past decade. In the past 2 years, pink salmon prices fell off of a plateau of 15-16 cents per pound, and preliminary estimates indicate that the ex-vessel price averaged just 6 cents per pound for the 2002 harvest season. This is more than a 50 percent decline in price from 2001, a drop of two-thirds from 1999, and a drop of more than 90 percent from the peak of 79 cents per pound in 1988. To say that prices in the pink salmon industry are under pressure is an understatement.

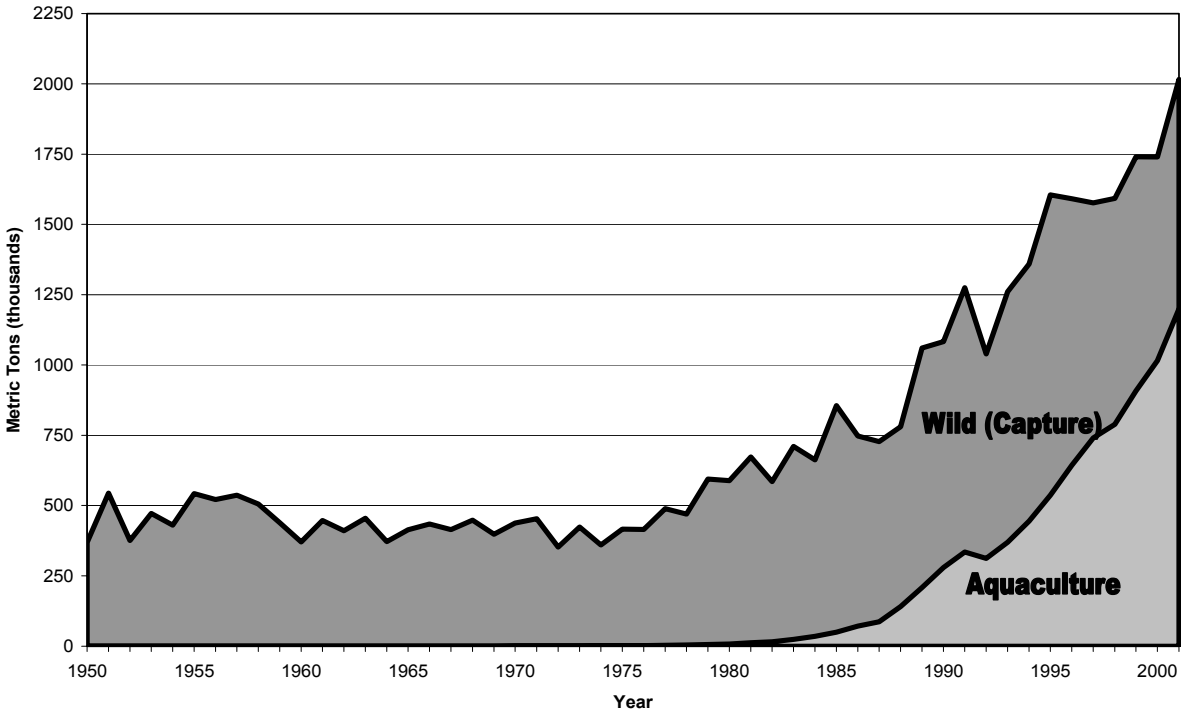
Figure 3. Alaska Average Pink Salmon Ex-Vessel Price, 1984-2002.



Source: Alaska Department of Fish and Game, Division of Commercial Fisheries.

The supply factors pressuring pink salmon prices are coming not only from large supplies of wild salmon, but also from the rapid growth of farmed (aquaculture) salmon. From 1950 through the mid-1970s, world salmon production fluctuated from year-to-year, but there was no readily evident long-term upward or downward trend (Figure 4). World salmon production began to climb in the late 1970s, initially with negligible farmed salmon production and thus virtually all of the growth coming from wild-caught supplies. During the 1980s, world production of farmed salmon began to grow dramatically. By 1998, farmed salmon accounted for 50 percent of total world salmon production, and accounted for 60 percent of total world supply in 2001. The rapid increase in world salmon supplies has placed downward pressure on prices for all species of salmon in virtually all product forms.

Figure 4. World Salmon Production, 1950-2001.



Source: Food and Agriculture Organization of the United Nations.

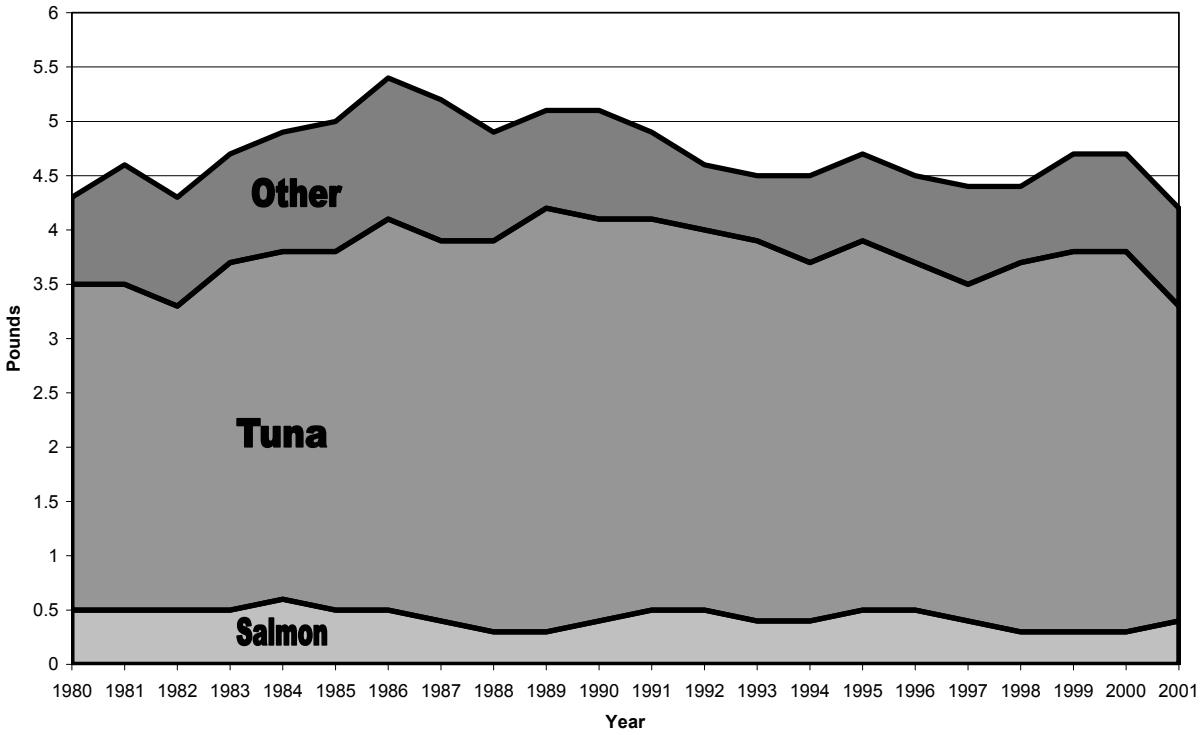
Consumption

Since 1980, U.S. per capita consumption of canned fishery products has fluctuated around an average of 4.7 pounds (Figure 5). From 1980, per capita consumption climbed by 1.1 pounds to a peak of 5.4 pounds in 1986, an increase of 26 percent. Since 1986, per capita consumption declined unsteadily to a 22-year low of 4.2 pounds in 2001.

Tuna accounts for the lion's share of canned fishery products, with average annual U.S. per capita consumption of 3.4 pounds over the period 1980-2001. This amounts to 72 percent of the average annual per capita consumption of 4.7 pounds of all canned fishery products over the same period. By comparison, average annual per capita consumption of canned salmon averaged 0.4 pounds during the same period, or about 9 percent of overall consumption of canned fishery products. Other products, including sardines, shellfish, and other species, accounted for the remaining 0.9 pounds (19 percent) of average annual per capita consumption of canned fishery products during that period.

Although there is no strikingly discernable trend in annual per capita consumption of canned salmon since 1980, there are indications of a drop off. In the 10 years from 1980 through 1989, annual per capita consumption dipped below 0.5 pounds only three times. Conversely, in the most recent 10-year period from 1992 through 2001, per capita consumption dropped below 0.5 pounds seven times.

Figure 5. U.S. Annual Per Capita Consumption of Canned Fishery Products, 1980-2001.



Source: National Marine Fisheries Service, U.S. Department of Commerce.

At retail, canned pink salmon is available mostly in two can sizes: "talls," which contain 14.75 ounces of product, and "halves," which contain 7.5 ounces. The bulk of canned pink salmon production is in "talls." The 0.4-pound average annual per capita consumption of canned salmon of all species equates to 6.4 ounces, or less than one-half of the prevalent 14.75-ounce tall can. Put another way, if each individual in the United States consumed just one tall can of salmon per year, annual per capita consumption would be more than doubled from recent levels. Such low levels of consumption per capita present formidable marketing challenges for a mature product. The Alaska canned salmon industry has a history dating to 1878, so canned salmon is well advanced along its product life cycle. The product does not need to be introduced to the marketplace, but it may need to be reintroduced to consumers who may not currently buy it or even be aware of the product and how to use it.

Most of the published research on the demand for salmon products analyzes fresh and frozen salmon. Given the dramatic rise in farmed production of salmon, much of the recent literature on salmon demand addresses in some fashion the demand for farmed Atlantic salmon, nearly all of which is marketed either fresh or frozen. Recent published research on demand for canned salmon and value-added salmon products by U.S. consumers is scant.

Wessells and Wallström[1] analyzed canned salmon demand across 34 U.S. cities using scanner data from 1988 through 1992. An important conclusion from their research is that the responsiveness of the quantity of canned salmon demanded to price changes declined over the time period examined. During the late 1980s, a given decrease in the price of canned salmon would be accompanied by a proportionately larger increase in the quantity demanded. In the early 1990s, canned salmon demand became less responsive to price changes, so that a given price decrease would be accompanied by a proportionately smaller increase in the quantity demanded. When demand is very responsive to price changes, increases in the quantity supplied may enhance total industry revenues even as price decreases, because the increase in quantity demanded more than compensates for the lower prices. When demand is not very responsive to price changes, increases in the quantity supplied may decrease total industry revenues as price decreases, because the increase in quantity demanded is insufficient to compensate for the lower prices. What these findings suggest is that increasing canned salmon production in the late 1980s may have enhanced overall industry revenue, but that further increases in production in the early 1990s may have been detrimental to industry revenue. Put another way, the consumer market for canned salmon may have become saturated between the late 1980s and the early 1990s.

[1] Wessells, C.R. and P. Wallström. "Modelling Demand Structure Using Scanner Data: Implications for Salmon Enhancement Policies." *Agribusiness* 15 (1999): 449-461.

CANNED SALMON INVENTORIES

There are several sources of market information regarding the Alaska salmon industry, but data are not always complete and timely. The Alaska Department of Fish and Game requires annual reports from everyone who processes, exports, purchases, or sells processed fish. The deadline for filing the 2002 Commercial Operator's Annual Report to ADF&G is April 1, 2003, so no current season production information is available through this source. ADF&G also collects current season commercial salmon harvest data on the volume and value of fish harvested and disseminates the information throughout the harvest season. The Alaska Department of Revenue reports production and wholesale value of salmon products, with a reporting threshold for processors of 1 million pounds of salmon products sold at wholesale in the previous calendar year.

There are no mandatory programs for market reporting of canned salmon inventories.[2] Information may be reported voluntarily by canned salmon suppliers, or calculated from reported production and sales figures. Interestingly, salmon canners face conflicting incentives with regard to reporting of production and inventories. From the perspective of markets for fish, incentives for processors are to report inventories to the maximum extent possible, as larger supplies of product weigh down prices paid to harvesters. On the commercial sales side, in contrast, incentives for canners are to report inventories as small as possible, as lower available supplies would tend to push up prices paid by buyers. There are also differing incentives for reporting production and inventory information from the perspective of individual firms competing against each other versus collective actions by the industry as a whole. When coupled with a strictly voluntary reporting system, these types of conflicting incentives make the collection of reliable inventory data difficult.

To conduct assessments of the need for surplus removals of salmon, USDA has considered inventory figures from several sources in recent years. Sources of inventory figures have included the National Food Processors Association, the U.S. Department of Commerce, and the Salmon Market Information Service (SMIS). Through discussions between representatives from USDA and from the State of Alaska, concurrence was reached that the SMIS figures represent the best currently available data on canned salmon inventories.

SMIS collects and disseminates information on salmon harvests, production, sales volumes, inventories, prices, and other market information relevant to the Alaska salmon industry. SMIS addresses a statutory responsibility of ASMI to provide information about world markets to Alaska salmon harvesters. ASMI was established in 1981 as a partnership between the Alaska seafood industry and the Alaska State government. The mission of ASMI is to "To increase the worldwide consumption of Alaska Seafood and promote the quality and superiority of Alaska seafood products." ASMI programs are supported by a combination of taxes on Alaska seafood processors and salmon harvesters and partnerships with Federal agencies to promote salmon and other products. SMIS, in particular, is funded by ASMI from part of a one-percent marketing tax paid by Alaska salmon harvesters.

[2] Pouched salmon production is a fairly recent innovation and production levels are small relative to canned salmon production. Only one bidder has supplied pouched salmon for previous USDA purchases. Because of confidentiality considerations, pouched salmon inventories are not addressed in this report.

SMIS reports canned salmon inventories on the basis of a September through August sales year. Alaska salmon harvests typically begin in early June and end in mid September. The September-August sales year corresponds with the production season for canned salmon. Beginning stocks (carryover inventories), production, total supplies, and wholesale sales volumes reported by SMIS are shown in Table 1.

Table 1. Canned Pink Salmon Production, Sales, and Inventory, 1999-2002.

Harvest Year	September 1 Beginning Stock	Production	September 1 Total Supply	Wholesale Sales Volume
		-- pounds --		
1997	n.a.	n.a.	n.a.	142,573,500
1998	n.a.	n.a.	153,060,750	109,961,250
1999	43,099,500	169,964,250	213,063,750	160,317,750
2000	52,746,000	102,837,000	155,583,000	106,509,750
2001	49,073,250	166,557,000	215,630,250	158,946,000
2002	56,684,250	114,607,500	171,291,750	n.a.

Source: Salmon Market Bulletin, Salmon Market Information Service. Data converted from 48-tall case equivalents using conversion factor of 44.25 pounds per case.

Table 1 shows an upward trend in September 1 beginning stocks (carryover inventories) from 1999 to 2002. Following on the heels of a high production season of nearly 170 million pounds, carryover inventory increased by 9.6 million pounds (22 percent) from September 1, 1999 to September 1, 2000. Although production in 2000 dropped by 67.1 million pounds (39 percent) from the prior year, wholesale sales volume dropped by 53.8 million pounds (34 percent) over the same period. As a result, carryover inventory into September 1, 2001 dropped by only 3.7 million pounds (7 percent) from the prior year. Production in 2001 increased by 63.7 million pounds (62 percent) from the prior year. Over the same period, wholesale sales volume jumped an impressive 52.4 million pounds (49 percent), but the increase was insufficient to offset the increased production. Hence, September 1 carryover inventory increased again from 2001 to 2002, by 7.6 million pounds (16 percent). Over the 4-year period from 1999 to 2002, September 1 carryover inventory increased by over 13.6 million pounds (32 percent).

The increase in canned pink salmon carryover inventories over the past few years suggests that there is overcapacity in the industry. Industry production capacity apparently exceeds the ability of demand to absorb available supplies, as evidenced by growing carryover inventories. From 1997 through 2001, September-August wholesale sales volume averaged 135.7 million pounds annually, with a minimum of 106.5 million pounds in 2000 and a maximum of 160.3 million pounds in 1999. With available supplies of 171.3 million pounds of canned salmon on September 1, 2002, there are ample inventories available for both commercial and Government purchases based on historical sales volumes. In April 2003, SMIS reported wholesale sales volume of 46.7 million pounds for the period September-December 2002, resulting in available supplies of 124.6 million pounds as of January 1, 2003.

DEMAND FOR SALMON IN FEDERAL FOOD AND NUTRITION PROGRAMS

USDA's Agricultural Marketing Service (AMS) purchases a variety of food products in support of the National School Lunch Program (NSLP) and other Federal food and nutrition programs. These purchases also help to stabilize prices in agricultural commodity markets by balancing supply and demand. Fresh and processed food products customarily purchased by AMS include meats, poultry, fish, fruit, vegetables, egg products, dry beans, and tree nuts. Foods purchased are provided to school children participating in the NSLP and to Native Americans, needy families, the elderly, and the homeless through Federal Food Assistance Programs, such as The Emergency Food Assistance Program (TEFAP), administered by USDA's Food and Nutrition Service (FNS).

USDA does not purchase salmon products every year. Depending on available funding and assessment of market conditions, USDA purchases salmon products under its authority to encourage domestic consumption of commodities by diverting them from normal channels of commerce. These "surplus removal purchases" or "bonus buys" also are referred to as "Section 32 purchases" in reference to the enabling legislation for these purchases.[3] The aim of such surplus removal purchases is to remove excess supplies of product from the market, thus helping to raise prices for producers while benefiting recipients of the commodities. USDA salmon purchases for the past two decades are shown in Table 2.

Table 2 shows that the both the frequency and size of USDA purchases of salmon products increased beginning in the 1991-1992 school year compared to the previous 10 school years. From the 1981-1982 through the 1990-1991 school years, USDA purchased salmon products in only 4 out of 10 years. USDA purchased only canned salmon during that time, with purchases averaging 3.2 million pounds of canned salmon valued at $4.8 million in each year in which purchases were made. In contrast, USDA purchased salmon products in 11 out of the 12 school years from 1991-1992 through 2002-2003. Salmon purchases averaged 8.3 million pounds valued at $9.7 million in each year in which purchases were made. In addition, USDA plans to purchase up to $15.0 million of pouched and canned salmon during the 2003-2004 school year.

In 1994, USDA started purchasing salmon nuggets in addition to canned salmon. In 1996, USDA began purchasing pouched salmon as well. These purchase programs are small relative to purchases of canned salmon, but play an important role in providing a broader mix of salmon products to recipients. During the 1994-1995 through 1999-2000 school years, USDA purchased 4.5 million pounds of salmon nuggets at a total cost of $5.5 million. Since the 1996-1997 school year, USDA has purchased 3.0 million pounds of pouched salmon at a cost of $4.9 million.

[3] Section 32 of the Act of August 24, 1935 (7 U.S.C. 612c) provides the authority to "encourage the domestic consumption of such commodities or products by diverting them, by the payment of benefits or indemnities or by other means, from the normal channels of trade and commerce or by increasing their utilization through benefits, indemnities, donations or by other means, among persons in low income groups as determined by the Secretary of Agriculture."

Table 2. USDA Salmon Purchases, 1981-2003.

School Year*	Canned Salmon		Pouched Salmon		Salmon Nuggets		Total	
	Mil. lbs.	*Mil. $*	*Mil. lbs.*	*Mil. $*	*Mil. lbs.*	*Mil. $*	*Mil. lbs.*	*Mil. $*
1981-82	0	0	0	0	0	0	0	0
1982-83	0	0	0	0	0	0	0	0
1983-84	2.8	4.1	0	0	0	0	2.8	4.1
1984-85	3.2	4.9	0	0	0	0	3.2	4.9
1985-86	3.7	5.5	0	0	0	0	3.7	5.5
1986-87	3.0	4.7	0	0	0	0	3.0	4.7
1987-88	0	0	0	0	0	0	0	0
1988-89	0	0	0	0	0	0	0	0
1989-90	0	0	0	0	0	0	0	0
1990-91	0	0	0	0	0	0	0	0
1991-92	8.7	14.2	0	0	0	0	8.7	14.2
1992-93	3.4	5.7	0	0	0	0	3.4	5.7
1993-94	6.7	10.0	0	0	0	0	6.7	10.0
1994-95	8.0	9.6	0	0	0.3	0.3	8.3	9.9
1995-96	0	0	0	0	0.6	0.6	0.6	0.6
1996-97	13.3	13.0	0.8	1.3	2.0	2.2	16.1	16.5
1997-98	4.8	6.0	0.3	0.5	0.3	0.5	5.4	7.0
1998-99	7.2	8.1	0.6	1.0	0.7	0.9	8.5	9.9
1999-00	14.6	14.9	0.6	1.0	0.6	1.0	15.9	16.9
2000-01	0	0	0	0	0	0	0	0
2001-02	15.2	13.5	0.7	1.1	0	0	15.9	14.5
2002-03	1.7	1.4	0	0	0	0	1.7	1.4

* School year is July 1 to June 30.
Source: Agricultural Marketing Service, USDA.

School Food Programs

The primary outlet for distribution of USDA commodity purchases is the NSLP. In fiscal year (FY) 2002, preliminary total commodity costs for these School Food Programs were $805.8 million, with $723.2 million in entitlement spending[4] (funds appropriated for School Food Programs) and $82.6 million in bonus commodity purchases (Section 32 surplus removal purchases). By comparison, preliminary total commodity costs for entitlement and bonus commodities distributed through TEFAP during FY 2002 were $380.0 million. As noted in Table 2, canned pink salmon accounts for the majority of salmon purchased by USDA. Canned pink salmon is an excellent source of protein and other nutrients and is readily stored without refrigeration.

[4] Includes cash-in-lieu of commodities and Commodity Schools.

Historically, demand for salmon products by NSLP recipient agencies has been limited because a number of factors detract from greater utilization. First, school foodservice operations today are geared toward items that require minimal preparation rather than preparing recipes from basic ingredients, such as canned pink salmon. Second, although canned pink salmon contains 100 percent edible product, additional labor is required to remove the skin and bones from the product prior to using it in a recipe. Although the canning process tenderizes and softens the tiny bones remaining in the product, and the skin is fully edible, most school foodservice operations prefer to remove visible skin and bones to increase palatability and acceptance of items prepared with canned pink salmon. Third, and perhaps most importantly, foods prepared using canned pink salmon simply are not well accepted by schoolchildren. While school foodservice operators seek items to meet the nutritional needs of children, the products chosen must be well-accepted by children or the items simply will not be eaten.

In conjunction with the school systems, USDA has purchased other salmon products in an attempt to address some of the issues that limit acceptance of canned pink salmon by school foodservice operations. Pouched salmon has several attributes that enhance its acceptability relative to canned salmon. USDA purchases four-pound vacuum-packaged retort pouches of pink salmon. Like canned salmon, pouched salmon is 100 percent usable and shelf stable. Unlike the canned salmon purchased by USDA, pouched salmon is skinless and boneless. The pouches are easily opened with a tear-open top, have no sharp edges, and are easily flattened for disposal. From a foodservice preparation perspective, these are positive attributes. But, pouched salmon still faces the issue that many schoolchildren will not accept salmon products, or any other fish and seafood products.

In addition to pouched salmon, USDA has purchased frozen value-added salmon products on a limited scale in an attempt to better address the needs of school foodservice programs. Purchases have included pink salmon nuggets, chum salmon nuggets, and pink salmon patties. Salmon nuggets are produced from domestic, wild-harvested, pink salmon and are breaded, par-fried, and then frozen. The minced salmon raw material may contain spices, flavorings, and other ingredients as needed to produce the desired texture, flavor, and color. Each nugget weighs a bit less than one ounce. Pink salmon patties are produced from either all fillets or minced salmon blocks produced from domestic, wild-harvested fish. The breaded, par-fried, pink salmon patties consist of not less than 80 percent salmon and not more than 20 percent from non-fish components (batter/breading, seasonings, spices, and other ingredients). The portion size is about 3.5 ounces.

Frozen salmon products purchased by USDA are very convenient from a foodservice operator's perspective. Because the salmon nuggets and patties are par-fried, no preparation is needed other than heating the items to serving temperature. This mode of "heat-and-eat" fits well into the operations of today's school kitchens. Like pouched and canned salmon products, however, salmon nuggets and patties face limitations on acceptance by schoolchildren.

FNS conducted a survey of State offices to determine the level of interest in accepting entitlement offerings of canned pink salmon for School Food Programs. An entitlement offering means that State agencies would have to order the product using their commodity entitlement allotment, that is, they would draw down some of their annual commodity credit balance which

could otherwise be used to acquire other commodities better accepted by the children. As a consequence, interest in canned pink salmon by the schools if offered on this basis would be limited. Only eight truckloads nationwide would be used by School Food Programs. At 36,993 pounds net weight per truckload, this represents 295,944 pounds of salmon. This amount represents less than 2 percent of the 16.8 million pounds of canned pink salmon purchased by USDA during school year 2001-2002. Because of limited acceptance of salmon products by schoolchildren, food assistance programs that serve more adults, such as TEFAP, may represent a more viable alternative for expanding usage of salmon products. The following section presents results of surveys conducted to examine the potential usage of canned salmon and value-added salmon products in the other food assistance programs administered by USDA.

Federal Food Assistance Programs

To assess the demand for salmon products through Federal Food Assistance Programs, FNS conducted surveys of State agencies responsible for three major programs. Surveys were administered in July and August 2002 regarding TEFAP, the Commodity Supplemental Food Program (CSFP), and the Food Distribution Program on Indian Reservations (FDPIR). FNS regional office coverage is depicted in Figure 5. Survey results presented below for TEFAP and CSFP are summarized according to these FNS regions, while nationwide results are presented for FDPIR. Throughout the discussion, the term "States" refers inclusively to all areas served by FNS Federal Food Assistance Programs, including States, territories, trusts, and the District of Columbia.

Figure 5. USDA Food and Nutrition Service Regions.

The Emergency Food Assistance Program

TEFAP helps to supplement the diets of low-income, needy persons including elderly and homeless persons by providing them with emergency food and nutrition assistance at no cost.

USDA makes commodity foods available to State agencies for distribution to households, soup kitchens, and food banks. Recipients of food for home use must meet income criteria set by the State. USDA buys the food including processing, packaging, and shipping to the States. The amount received by each State depends on its low-income and unemployed population. Total food costs were $380.0 million in FY 2002.

To determine the potential demand for salmon products through TEFAP, responsible State agencies were asked to respond voluntarily to the survey shown in Appendix Figure 1. The TEFAP survey response rate was high. Forty-two States and three territories responded to the survey. Commodities purchased for distribution through TEFAP may be offered to State agencies as part of an entitlement or as bonus commodities. Entitlement commodities are purchased with funds appropriated for TEFAP, while bonus commodities are surplus commodities donated to TEFAP. More importantly, each State receives an annual dollar allocation for the amount of entitlement commodities they may order. Meanwhile, States may order any amount of bonus commodities they believe they can distribute without waste. Thus, in effect, entitlement commodities "compete" with each other as State and local agencies make decisions about how to allocate available entitlement funding for purchases of various available commodities. Because bonus commodities accepted by the States do not draw against an allowable allocation, these commodities do not "compete" with each other for limited TEFAP appropriations.

As expected, demand for canned pink salmon by TEFAP State agencies is much higher as a bonus commodity than as an entitlement commodity (Table 3). Responses show that 5.8 million pounds of canned pink salmon could be used as an entitlement commodity. At the assumed cost of $0.7945 per pound, the total cost of entitlement purchases would be $4.6 million. By comparison, the highest USDA purchases of canned pink salmon were reached in the 2001-2002 school year, when 15.2 million pounds were purchased at a cost of $13.5 million (Table 2). According to the survey responses, canned salmon as a TEFAP entitlement commodity could use more than one-third of the total quantity purchased by USDA in the 2001-2002 school year.

Table 3. The Emergency Food Assistance Program Canned Pink Salmon Survey Results.

Region	Entitlement	Bonus
	-- pounds --	
Northeast	220,000	500,900
Mid-Atlantic	638,340	2,308,846
Southeast	1,716,874	3,488,783
Midwest	1,250,000	7,674,860
Southwest	1,695,225	2,491,720
Mountain Plains	36,993	2,226,172
Western	268,152	3,634,399
TOTAL	5,825,584	22,325,680

Source: USDA Food and Nutrition Service, August 2002 survey.

As a bonus commodity, TEFAP State agencies indicated that 22.3 million pounds of canned pink salmon could be used. This amount is nearly one-third larger than the record large USDA purchases of 16.8 million pounds of canned salmon in the 2001-2002 school year. Because TEFAP agencies do not, in effect, purchase bonus commodities with their allocation of appropriated TEFAP funds, agencies are willing to accept essentially all of the bonus commodities that they can handle and distribute. In the case of canned salmon, the survey results suggest that TEFAP agencies might be able to distribute more product than USDA has ever purchased in a single year.

Comparison of demand by TEFAP agencies for entitlement versus bonus canned salmon is instructive. Assuming that the demand for canned salmon is not increased in the general U.S. population, demand for canned salmon as a bonus commodity can be considered to represent the upper limit on the ability of TEFAP agencies to handle and distribute the product. Differences in the potential use of canned salmon as an entitlement commodity relative to the "maximum" potential use as a bonus commodity provides an indication of underlying demand, or preferences, for the product. Overall, TEFAP agencies indicated that use of canned salmon as an entitlement commodity would be 26 percent of the use of the product as a bonus commodity (i.e., 5.8 million pounds divided by 22.3 million pounds). This percentage varied greatly among regions, however. In the Southwest region, potential use of canned salmon as an entitlement commodity would be 68 percent of "maximum" potential use as a bonus commodity. In contrast, potential entitlement commodity use in the Mountain Plains region would be less than 2 percent of "maximum" potential use. These differences suggest that compared to the Mountain Plains region, there is a greater preference in the Southwest region for canned salmon relative to other entitlement commodities. By this measure, canned salmon demand by TEFAP agencies is stronger is the Southwest, Southeast, and Northwest regions and weaker in the Mountain Plains, Western, and Midwest regions, with the Mid-Atlantic region falling in the middle.

The TEFAP survey also examined potential use of value-added salmon products: frozen pink salmon nuggets, frozen chum salmon nuggets, and frozen pink salmon patties. Survey results are shown in Table 4.

Survey results for value-added salmon products show that TEFAP agencies would use substantially smaller volumes of these products compared to use of canned pink salmon. A limiting factor is that frozen nuggets and patties require freezer space, while canned salmon requires no refrigeration. Freezer space is both more limited in supply and more costly to operate compared to ordinary food warehouse or pantry storage. As a bonus commodity, results show that use of pink salmon nuggets would be four times less than the use of canned pink salmon. As an entitlement commodity, potential use of frozen pink salmon nuggets would be six times smaller than use of canned pink salmon, 988 thousand pounds versus 5.8 million pounds. The potential use of frozen products as entitlement commodities is also affected by cost considerations. Pink salmon nuggets were assumed to cost $1.17 per pound, chum salmon nuggets $1.22 per pound, and pink salmon patties $1.80 per pound, compared to $0.7945 per pound for canned pink salmon. Although frozen salmon nuggets and patties offer additional convenience in terms of preparation, canned salmon offers a better value on a per-unit basis as a protein source. At the assumed prices, total entitlement cost would be $1.2 million for pink salmon nuggets, $0.6 million for chum salmon nuggets, or $3.7 million for pink salmon patties.

Table 4. The Emergency Food Assistance Program Value-Added Salmon Product Survey Results.

Region	Pink Salmon Nuggets		Chum Salmon Nuggets		Pink Salmon Patties	
	Entitlement	Bonus	Entitlement	Bonus	Entitlement	Bonus
			-- pounds --			
Northeast	70,000	240,000	60,000	200,000	30,000	240,000
Mid-Atlantic	120,800	334,800	98,800	256,800	78,800	370,800
Southeast	590,000	866,000	114,000	190,000	1,438,000	1,159,000
Midwest	0	1,869,000	0	1,338,000	0	1,990,000
Southwest	166,000	306,000	192,000	346,000	314,000	782,000
Mtn. Plains	0	221,993	0	95,000	0	445,000
Western	41,280	1,501,280	41,280	399,280	195,280	970,280
TOTAL	988,080	5,339,073	506,080	2,825,080	2,056,080	5,957,080

Source: USDA Food and Nutrition Service, August 2002 survey.

Of the three frozen products, TEFAP agencies expressed greatest interest in pink salmon patties. According to the survey results, TEFAP agencies would use over 1 million pounds of pink salmon patties as an entitlement commodity, compared to less than 1 million pounds of pink salmon nuggets and one-half million pounds of chum salmon nuggets. As bonus commodities; however, differences in potential use of the products were smaller. Use of pink salmon patties would be 6.0 million pounds, compared to 5.3 million pounds for pink salmon nuggets and 2.8 million pounds for chum salmon nuggets.

To gauge TEFAP agencies' knowledge of various salmon products, respondents were asked to indicate whether or not they are familiar with each of the salmon products included in the survey. Results are shown in Table 5, with the figures in each column reflecting the number of States. Responses were assumed to apply to each State within the region for agencies that responded on an aggregate basis. As expected, the number of agencies familiar with canned pink salmon was high, with 29 States indicating familiarity with the product and none indicating lack of familiarity. No response was indicated by 16 States. Given the widespread distribution of canned pink salmon and the long history of the product, State agencies not responding to this question likely were in fact familiar with the product.

Table 5. TEFAP State Agency Familiarity with Salmon Products.

Product	Familiar With Product?		
	Yes	No	No Response
Canned Pink Salmon	29	0	16
Frozen Pink Salmon Nuggets	9	19	17
Frozen Chum Salmon Nuggets	7	21	17
Frozen Pink Salmon Patties	7	22	16

Source: USDA Food and Nutrition Service, August 2002 survey.

Familiarity with the value-added frozen salmon products was lower than for canned pink salmon. Nine State agencies indicated familiarity with frozen pink salmon nuggets, while seven State agencies indicated familiarity with frozen chum salmon nuggets and with frozen pink salmon patties. The number of State agencies indicating no familiarity with these three frozen salmon products ranged from 19 to 22. The number of State agencies indicating no response was similar to the results for canned pink salmon, with 16 to 17 agencies providing no response regarding the questions about familiarity with the frozen salmon products. In the case of the frozen products, lack of response may not indicate familiarity with the product in question, since the availability and distribution of these products through FNS Federal Feeding Programs has been much smaller and more limited compared to canned pink salmon.

Commodity Supplemental Food Program

CSFP works to improve the health of low income pregnant and breastfeeding women, other new mothers with infants up to one year postpartum, children up to age 6, and the elderly (over 60) by supplementing their diets with nutritious USDA commodity foods. As of 2002, CSFP is available in 28 States, the District of Columbia, and two Indian Tribal Organizations. CSFP food packages do not provide a complete diet, but are good sources of nutrients typically lacking in the diets of these target populations. The nutritional profile of salmon products addresses the dietary needs of these target groups, whose diets often are lacking in sources of protein. Preliminary data indicate that an average of more than 427,000 people each month participated in the program in FY 2002, including more than 352,000 elderly people and more than 75,000 women, infants, and children.

Funds to purchase commodities and pay administrative expenses for CSFP are provided by direct appropriation and may be supplemented by bonus commodities purchased under other program authorities. Commodities purchased with direct appropriations are made available to State agencies as options within a food package, while bonus commodities purchased under other authorities are offered in addition to the food package. Since each State is allocated a set, limited amount of purchased commodities each year, in effect, a commodity offered as a purchased commodity option "competes" with other commodities for a share of the State allocation. Commodities offered as a bonus do not "compete" with other commodities for direct appropriations since States may order as many of them as they can distribute without waste.

Because the commodities purchased under CSFP are distributed directly to households, smaller package sizes geared toward family meal preparation are needed. Of the salmon products purchased by USDA, canned salmon in 14.75 ounce cans[5] best suits this need, as USDA does not supply any frozen foods to CSFP. To determine the potential demand for canned salmon through CSFP, responsible State agencies were asked to respond voluntarily to the survey shown in Appendix Figure 2. Responses were received from agencies accounting for nearly three-fourths of the participants served by the program. Survey responses show that 1.58 million pounds of canned salmon could be used as an option within the CSFP food package annually, assuming that it would not be offered as a bonus in the same year (Table 6). Survey responses show that 2.24 million pounds of canned salmon could be used as a bonus in addition to the CSFP food package.

[5] For a number of reasons including cost-to-value considerations, USDA does not purchase canned salmon in 7.5 ounce cans or "halves."

Table 6. Commodity Supplemental Food Program Canned Pink Salmon Survey Results.

Region	Option	Bonus
	-- pounds --	
Northeast	175,972	175,972
Mid-Atlantic	--	--
Southeast	406,725	499,475
Midwest	386,932	623,418
Mountain Plains	32,221	193,607
Southwest	443,916	443,916
Western	136,384	305,958
TOTAL	1,582,150	2,242,346

Source: USDA Food and Nutrition Service, August 2002 survey.

The survey assumed that canned salmon would not be offered both as an option within the CSFP food package and as a bonus in addition to the food package, because supplies offered as a bonus would be used entirely before CSFP agencies would begin ordering the product as part of the food package. Thus, there is no surprise the agencies would use more canned salmon if offered as a bonus commodity in comparison to an option within the food package.

With nearly 318,000 recipients served by the agencies responding to the survey, potential use of canned salmon amounts to 5.0 pounds per recipient if offered to agencies as an option within the CSFP food package. Potential use of canned salmon amounts to 7.1 pounds per recipient if offered as a bonus in addition to the food package. In contrast, U.S. per capita consumption of canned salmon in 2001 was 0.4 pounds.[6] Thus, usage of canned salmon through CSFP distribution would be 13 to 18 times higher on a per-recipient basis compared to U.S. per capita consumption.

Food Distribution Program on Indian Reservations

FDPIR provides foods to low income households living on Indian reservations and to American Indians residing in approved areas near reservations. Many households participate in the FDPIR as an alternative to the Food Stamp Program, because they do not have easy access to food stamp offices or authorized food stores. USDA purchases and ships commodities to Indian Tribal Organizations and State agencies based on their orders from a list of available foods. The administering agencies store and distribute the food and also provide nutrition information and suggestions for making the most nutritious use of commodity foods. In FY 2002, monthly participation in FDPIR was approximately 110,000 individuals.

To determine the potential demand for salmon products through FDPIR, responsible Indian Tribal Organizations and State Agencies (ITO/SA) were asked to respond voluntarily to the survey shown in Appendix Figure 3. Results of the FDPIR survey are shown in Table 7. Results

[6] U.S. Department of Commerce, National Marine Fisheries Service. *Fisheries of the United States 2001*. Silver Spring MD, September 2002.

show that FDPIR would use 356,642 pounds of canned pink salmon as an option within the food package and 590,916 pounds as a bonus commodity. Although not all Indian Tribal Organizations/State Agencies responded to the survey, the potential use of canned salmon by FDPIR recipients is high on a per-capita basis assuming product is distributed to all individuals served by FDPIR. With an average of 110,000 individuals participating in 2002, use of canned pink salmon as an option in the FDPIR food package would be 3.2 pounds per person per year. As a bonus commodity, use of canned salmon would be 5.4 pounds per person per year. These amounts are 8 to 13.5 times larger than the 0.4 pound U.S. per capita consumption of all canned salmon.

Table 7. Food Distribution Program on Indian Reservations Salmon Survey Results.

Product	Use
	-- pounds --
Canned Pink Salmon (Option)	356,642
Canned Pink Salmon (Bonus)	590,916
Frozen Pink Salmon Nuggets (Bonus)	543,942
Frozen Chum Salmon Nuggets (Bonus)	492,356
Frozen Pink Salmon Patties (Bonus)	604,506

Source: USDA Food and Nutrition Service, August 2002 survey.

Of the value-added frozen salmon products, pink salmon patties would have the highest use (604,506 pounds) as FDPIR bonus commodities. Use of pink salmon nuggets would be 543,942 pounds, followed by chum salmon nuggets at 492,356 pounds. These amounts would be comparable to the use of canned pink salmon as a bonus item under FDPIR, with chum and pink salmon nuggets lower and pink salmon patties actually higher than canned pink salmon.

FDPIR agencies were asked to indicate their familiarity with three value-added frozen salmon products. Results are shown in Table 8.

Table 8. FDPIR Indian Tribal Organization/State Agency Familiarity with Salmon Products.

	Familiar With Product?		
Product	Yes	No	No Response
Frozen Pink Salmon Nuggets	11	34	5
Frozen Chum Salmon Nuggets	6	41	3
Frozen Pink Salmon Patties	14	32	4

Source: USDA Food and Nutrition Service, August 2002 survey.

In general, the level of familiarity with these products was low. Only 11 responding agencies indicated that they were familiar with frozen pink salmon nuggets, while 34 respondents indicated that they were not familiar with the product. Familiarity with chum salmon nuggets was even lower, with only 6 agencies familiar with the product and 41 not familiar with it. The highest level of familiarity reported was for frozen pink salmon patties, with 14 agencies indicating familiarity with the product and 32 indicating no familiarity with the product.

FDPIR agencies' responses regarding familiarity with the frozen salmon products were consistent with their responses to questions about how much of each product they could use. For instance, agencies were least familiar with frozen chum salmon nuggets, and this was also the product with the smallest potential usage in FDPIR. Frozen pink salmon patties showed the highest level of familiarity, as well as the highest potential usage in FDPIR. These findings suggest that lack of familiarity with value-added salmon products may hinder potential usage of the products in food distribution programs.

IMPEDIMENTS TO ADDITIONAL PURCHASES OF POUCHED AND CANNED SALMON

As shown in Table 2, USDA has conducted surplus removal purchases of pouched and canned salmon in 11 of the past 12 school years. In the years in which USDA conducted surplus removals of salmon, its purchases accounted for sizable portions of the canned salmon industry sales. For example, USDA purchases accounted for more than 9 percent of the total wholesale volume of canned pink salmon during the years 1999 and 2001. The frequency and size of USDA surplus removal purchases indicate that the canned pink salmon industry is in a state of chronic overproduction relative to commercial demand for the product. Over the past decade, commercial domestic and export demand have been inadequate to absorb the annual volume of canned salmon production at price levels adequate to sustain salmon harvesters and processors. Thus, USDA has become an important outlet for the pink salmon industry.

The primary impediment to additional purchases of pouched and canned salmon for distribution through school food programs is the level of demand for the product by the ultimate recipients. In school systems, foods prepared with canned pink salmon receive limited acceptance by schoolchildren. In addition, canned salmon presents some convenience and preparation challenges for today's school foodservice operations. Pouched salmon reduces some of the convenience and preparation challenges posed by canned salmon. Ultimately, however, foods prepared with pouched salmon face the same acceptance obstacles confronting foods prepared with canned salmon. Another challenge to increasing Federal purchases of pouched salmon is that thus far, only one processor has provided pouch salmon for USDA purchases. USDA's commodity purchasing programs rely on competitive bidding to ensure that the procurement process is fair and open to all potential suppliers and that prices paid by the Government are reasonable and competitive. The competitive bidding process is thwarted when there is only one supplier bidding. Additional suppliers of pouched salmon for USDA purchases would reduce concerns about the lack of competitive bidding for this product.

Like the school feeding programs, a major challenge to additional purchases of pouched and canned salmon for Federal Feeding Programs is the level of demand for the product. The amounts of canned salmon that State agencies indicated could be used in Federal feeding programs are considerably higher on a per-recipient basis compared to U.S. average per capita consumption. Nationwide, per capita consumption of canned salmon (0.4 pounds or 6.4 ounces) is less than one-half of a 14.75 ounce tall can per year. Federal feeding programs would distribute amounts closer to one can per month to recipients. Prospects for further increasing usage of canned salmon through Federal feeding programs are limited without increases in demand for the product generally.

Surveys of State agencies responsible for administering Federal feeding programs indicate that there may be opportunities to increase awareness of value-added salmon products. The percentage of TEFAP and FDPIR State agencies familiar with frozen salmon nuggets and patties is low. Lack of familiarity with the products likely reduces willingness to consider the products for use in these food distribution programs. The salmon industry may be able to increase demand for these products through promotional efforts aimed at informing and educating food distribution agencies about the products.

An important consideration regarding the value-added salmon products is that additional processing costs reduces the overall spending for the basic commodity itself. For a given budgetary outlay, increasing the proportion allocated to value-added products means that more funding is directed toward processing costs and less is directed toward purchasing the commodity itself. Given that the intent of Section 32 surplus removals is to divert supplies from normal channels of distribution for the benefit of producers and commodity recipients, a balance must be struck in terms of providing commodities desired by State agencies and their recipients, while removing as much surplus production from normal channels as practicable. In other words, if USDA directs a higher proportion of any given spending for salmon surplus removals toward value-added products, a smaller proportion of the total spending will be directed toward purchasing the salmon itself.

There is a dilemma with regard to expanding USDA purchases of salmon, which deals with the manner in which the purchases are made and distributed. If an expansion in purchases is to be driven by demand for salmon products, then the purchases would be made on an annual basis according to distributing agencies' demands using allocated entitlement funds. As evidenced by survey results, demand by State agencies for entitlement (or food package "option") purchases is considerably smaller than demand for "bonus" purchases. Food distribution agencies do not expend their own appropriated entitlement allotments to receive bonus products. However, expansion in purchases of salmon through USDA authorities to conduct surplus removal or bonus purchases is driven largely by the supply side of the market. Surplus removal purchases typically are conducted in response to oversupply of commodities rather than transitory conditions negatively impacting demand. Moreover, bonus purchases of salmon must be weighed against the availability of funds and competing needs in other parts of agriculture.

The dilemma for the salmon industry is that there are basically two paths to increasing USDA purchases of salmon products. One path is demand driven, and depends on cultivating demand for pouched and canned salmon and value-added salmon products by local agencies responsible for administering school food programs and Federal feeding programs. By establishing a demand for entitlement purchases of salmon products, the industry would be more assured of yearly USDA purchases according to demand by distributing agencies. The level of USDA purchases however would be considerably smaller than the amount of salmon that has been purchased by USDA in recent years under its authorities to conduct surplus removal purchases. The second path is supply driven, and depends on USDA surplus removal purchases of excess supplies of salmon. This path is less certain and does not provide assurance of USDA purchases of salmon products every year. But, the volume of purchases in years in which surplus removal purchases are made generally would exceed the volume of salmon products that would be demanded as entitlement purchases.

Simultaneous operation of both an entitlement program for purchasing salmon products along with surplus removal purchases is not generally feasible. This is because local agencies would exhaust bonus offerings of salmon products before there would be any demand for the products under entitlement programs, and quantities typically offered under bonus purchases typically exceed the apparent demand that would exist for entitlement purchases. For certain other commodities such as beef, there is sufficient demand by distributing agencies to warrant both

entitlement purchases and occasional surplus removal purchases if warranted by market conditions. Even with sizable surplus removal purchases of beef, the volume desired by distributing agencies exceeds the volume of USDA's surplus removal purchases. In this situation, both an entitlement purchasing program and occasional surplus removal programs for purchases of beef operate simultaneously.

USDA recommends continuation of the current program for its purchases of salmon products, which is to assess the need for surplus removal purchases based on industry market conditions. It may be the case that establishing salmon as an entitlement commodity to be purchased based on distributing agencies' demands for salmon products would provide for more predictable annual purchases of salmon products by USDA. However, an ongoing entitlement program for salmon purchases likely would limit USDA's ability to conduct surplus removal purchases of salmon when dictated by market conditions and the volume of salmon requested would be less. Given the sharp fluctuations in salmon harvests from year to year, it is important that USDA be positioned to implement a surplus removal program if warranted. USDA surplus removal purchases of salmon products help to divert some of the peaks in production from commercial channels to the benefit of the salmon industry and recipients of the product. An ongoing entitlement purchase program for salmon products would contribute to stability on the demand side, but would inhibit the ability of USDA to conduct surplus removal purchases to help stabilize market fluctuations arising from the supply side.

Section 32 surplus removals are an appropriate partial remedy for sporadic conditions that lead to instances of temporary oversupply of a commodity. Such purchases mitigate wild price swings in the marketplace and help to reduce financial stress on producers buffeted by transitory market conditions largely out of their control. In the case of the U.S. wild salmon industry; however, challenges facing the industry are enduring rather than transitory. Periodic USDA surplus removal purchases will not address underlying supply and commercial demand problems as evidenced by systemic overproduction and low prices. Industry actions to increase commercial demand or make adjustments in supply will ultimately be required.

APPENDIX FIGURES

How much of each of the following products would you order during a fiscal year? **(Assume that all of the salmon products would be available for delivery through the year, and that they would not be offered as both entitlement and bonus commodities in the same fiscal year.)**

Canned Salmon in 14.75 oz Cans:

A. As entitlement, at approximately $.7945 cost per pound. State could use _____ pounds per year.

B. As bonus, State could use _____ pounds.

C. Are you familiar with this product? ___ Yes ___ No.

Frozen Pink Salmon Nuggets in 2 lb Bags:

A. As entitlement, at approximately $1.17 cost per pound. State could use _____ pounds per year.

B. As bonus, State could use _____ pounds.

C. Are you familiar with this product? ___ Yes ___ No.

Frozen Chum Salmon Nuggets in 2 lb Bags:

A. As entitlement, at approximately $1.22 cost per pound. State could use _____ pounds per year.

B. As bonus, State could use _____ pounds.

C. Are you familiar with this product? ___ Yes ___ No.

Frozen Breaded Pink Salmon Patties in 2 lb Bags:

A. As entitlement, at approximately $1.80 cost per pound. State could use _____ pounds per year.

B. As bonus, State could use _____ pounds.

C. Are you familiar with this product? ___ Yes ___ No.

Appendix Figure 1. The Emergency Food Assistance Program Survey.

How much canned salmon would you order during a fiscal year?
(Assuming that the salmon would be available for delivery throughout the fiscal year, but that it would not be offered within the same year as both an additional choice within the food package, and as a bonus food in addition to the food package.)

Canned Salmon in 14.75 oz. Cans:

A. As option within the food package. State could use _____ pounds per year.

B. As bonus in addition to the food package. State could use _____ pounds per year.

Appendix Figure 2. Commodity Supplemental Feeding Program Survey.

How much canned salmon would you order during a fiscal year? **(Assume that the salmon would be available for delivery throughout the fiscal year, but that it would not be offered within the same year as both an additional choice within the food package, and as a bonus food in addition to the food package.)**

Canned Salmon in 14.75 oz Cans:

A. As an option within the food package. ITO/SA could use _____ pounds per year.

B. As a bonus option in addition to the food package. ITO/SA could use _____ pounds per year.

As bonus, in addition to the food package, how much of the following frozen salmon products would you order during a fiscal year? **(Assume that (1) the salmon would be available for delivery throughout the fiscal year, and (2) one unit of any one of the following three products per participant per month.)**

Frozen Pink Salmon Nuggets in 2 lb Bags:

A. As a bonus. The ITO/SA could use _____ pounds per year.

B. Are you familiar with this product? ___ Yes ___ No.

Frozen Chum Salmon Nuggets in 2 lb Bags:

A. As a bonus. The ITO/SA could use _____ pounds per year.

B. Are you familiar with this product? ___ Yes ___ No.

Frozen Breaded Pink Salmon Patties in 2 lb Bags:

A. As a bonus. The ITO/SA could use _____ pounds per year.

B. Are you familiar with this product? ___ Yes ___ No.

Appendix Figure 3. Food Distribution Program on Indian Reservations Survey.